

Nursing Competency: Definition, Structure and Development

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ABSTRACT

Nursing competency includes core abilities that are required for fulfilling one's role as a nurse. Therefore, it is important to clearly define nursing competency to establish a foundation for nursing education curriculum. However, while the concepts surrounding nursing competency are important for improving nursing quality, they are still not yet completely developed. Thus, challenges remain in establishing definitions and structures for nursing competency, competency levels necessary for nursing professionals, training methods and so on. In the present study, we reviewed the research on definitions and attributes of nursing competency in Japan as well as competency structure, its elements and evaluation. Furthermore, we investigated training methods to teach nursing competency.

Key words concept; development support; nursing competence; structure of dimensions

Healthcare has greatly changed due to issues such as disease structure changes and a rapidly aging population with decreasing birthrates. Accordingly, healthcare and care provider systems are changing. For example, when a patient has an acute medical problem, the hospital is expected to provide short-term, intensive care. When the treatment is completed, home care is needed to provide support for treating the patient with dignity and respect until the end of his/her life. Thus, nurses must provide comprehensive care that meets patients' complex and diverse needs. Regardless of work setting, this is required of all nurses; presently, there is a growing expectation that nurses should be able to combine various sources of information and incorporate these into their decision-making and nursing practice.

Nurses are always challenged on how they can contribute to society as professionals. They are expected to take professional responsibilities for continuously providing direct care, protecting individual lives and supporting activities of daily living.

To accomplish this, it is important for nurses to improve their nursing competency and utilize it in their daily practice. Competence is an ability acquired through experience and learning. The concept of competence is two-fold: 1) potential abilities that may work effectively under certain circumstances and 2) motivation to show one's usefulness using those abilities. On the other hand, competency is a behavioral characteristic that is based on one's interests and experiences influenced by his/her motivation and attitude. It is an optimal behavioral trait that likely leads to achievements. Competence (ability) is a premise for developing competency (behavioral characteristics).

Here we reviewed the research on definitions and attributes of nursing competency in Japan as well as its structure, elements and evaluation. We further investigated methods for teaching nursing competency.

DEFINITIONS AND ATTRIBUTES OF NURSING COMPETENCY

According to one concept analysis study,¹ nursing competency can be divided into the following three theories: behaviorism, trait theory, and holism. Behaviorism refers to competency as an ability to perform individual core skills, and is evaluated by demonstration of those skills. Trait theory considers competency as individual traits necessary for effectively performing duties (knowledge, critical thinking skills, etc.). Holism views competency as a cluster of elements, including knowledge, skills, attitudes, thinking ability and values that are required in certain contexts. Nursing competency is generally viewed as a complex integration of knowledge including professional judgment, skills, values and attitude, indicating that holism is widely accepted. In nursing practice, nurses are required to apply their acquired knowledge, skills and innate individual traits to each situation and be able to adapt that knowledge and those skills to different circumstances.

There are two definitions of holistic, integrated nursing competency: 1) By analyzing a) graduation achievement goals as they relate to enhancing the development of nursing competency (the Conference for Nursing Education model),² b) the International Competency Standards Framework for general nurses (International Council of Nurses)³ and c) the Scope and Standards of Nursing Practice (American Nurses Association),⁴ Na-

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Abbreviation: CNCSS, Clinical Nursing Competence Self-Assessment Scale

Table 1. Components of nursing competency

	Clinical Nursing Competence	Nursing clinical ladder	Holistic Nursing Competence Scale	Clinical Nursing Competence Self-assessment Scale: CNCSS
			General aptitude	Basic responsibilities
	Matsutani (2010)	Japanese Nursing Association (2016)	Takase (2011)	Nakayama (2008)
Ability to understand people and situations	Ability to apply knowledge (assessment)	Ability to understand needs		Clinical judgment
	Ability to build interpersonal relationships (communication)			Supportive interpersonal relationships
Ability to provide people-centered care	Ability to provide nursing care	Ability to provide care	Nursing care in team	Planned nursing implementation
	Ability to collaborate with other professionals	Ability to collaborate		Evaluation of care
	Ability to practice ethically	Ability to support decision making	Ethically-oriented practice	Care coordination
	Ability to expand professional capacity		Professional development	Health promotion
Ability to improve nursing quality	Ability to ensure and deliver high-quality nursing		Staff education and management	Ethical practice
				Professional development
				Continuous learning
				Risk management
				Quality improvement
				Nursing care management (fulfilment of responsibilities)

kayama et al.⁵ defined nursing competency as “the ability to take action by combining knowledge, skills, values, beliefs, and experience acquired as a nurse” and explained that competency can be viewed as an integrated performance reflecting the professional nurse’s feelings, thoughts and judgment; and 2) Takase and Teraoka⁶ defined nursing competency as a nurse’s ability to effectively demonstrate a set of attributes, such as personal characteristics, professional attitude, values, knowledge and skills and to fulfill his/her professional responsibility through practice. A competent person must possess these attributes, have the motivation and ability to utilize them and must effectively use them to provide safe, effective and professional nursing care to his/her patient.

These definitions were developed by referencing international standards and literature reviews of the concept of nursing competency using domestic and international databases, clearly describing the structure of nursing and also leading to the development of evaluation methods. Therefore, they will play important roles in future research on nursing competency.

On the other hand, in order for more nurses to evalu-

ate and enhance their own nursing competencies in their practice, it is important to develop definitions of nursing competency and competency levels that are simple and easy to understand. The Japanese Nurses Association has been developing a standardized clinical ladder for nurses. As a result, the Association developed nursing competency indices that could be used across all areas of nursing practice.⁷ These nationally standardized indices were created to help nurses objectively evaluate their competencies, use them in different practice settings and situations and enhance the quality of nursing care. The Association defines core nursing competency as “the ability to perform clinical nursing care that is based on the nurse’s ethical thinking and accurate nursing skills and that is provided to meet the needs of the cared.” It also developed a rubric showing four core competencies for nurses (the abilities to understand needs, provide care, work collaboratively, and support decision-making) as a clinical ladder, with five levels for each competency as follows: I) following basic nursing care procedures and practicing nursing with needed advice; II) practicing nursing independently based on a standard nursing care

plan; III) practicing individual nursing suited to care recipients; IV) practicing nursing using predictive judgment with a broad perspective; and V) in more complex situations, practicing nursing by selecting the best means for care recipients and increasing QOL. Since the rubric shows objectives (including performance objectives) for each level, it helps many nurses evaluate their own skills, thus enhancing their competencies.

As described above, nursing competency is a complex integration of knowledge including professional judgment, skills, values and attitude. It is an intelligent practical skill set that integrates or combines different factors and issues in complex ways, specific to each circumstance. Table 1 shows the components of nursing competency.

Next, we examined the attributes (common traits and characteristics) of nursing competency.

To acquire nursing competency, nurses must possess the skills and personal traits necessary to effectively perform their duties while integrating multiple elements including knowledge, techniques, attitude, thinking ability and values that are required in specific contexts. There are three categories into which these elements can be divided: personal traits necessary for nursing, professional attitudes and behaviors, and the ability to provide care based on professional knowledge and skills.¹ Personal traits include affection, understanding, self-control, critical thinking and problem-solving ability. Professional attitudes and behaviors involve the following performance standards: taking up professional responsibilities, being autonomous, being aware of one's own limitations, providing explanations, respecting patient rights, promoting continuous learning and maintaining up-to-date knowledge and skills. Providing care based on professional knowledge and skills includes the ability to collaborate with other healthcare professionals, develop intrapersonal relationships, educate and instruct, manage nursing care, ensure safety and quality of nursing and expand the capacity of nursing.

Thus, nursing competency attributes include a wide variety of abilities, and nursing competency can be referred to as performance traits explicitly demonstrated by a competent nurse who possesses these abilities.

COMPONENTS OF NURSING COMPETENCY

In order to make nursing competency measurable, since it is a holistic and integrated concept, many researchers seek to identify its main components. Matsutani et al.⁸ analyzed the definitions, attributes, elements and structure of nursing competency by reviewing articles in English about nursing competency. The present review produced a definition of nursing competency that includ-

ed the ability to integrate knowledge and skills under particular situations or settings and traits that included core abilities necessary for ethical and effective nursing practice. Nursing competency is a holistic and integrated concept, which is constructed from complex activities. It is defined as a performance competency, which meets the standards expected from potential competencies. In addition, Matsutani et al.⁸ categorized nursing competency into seven elements subsisting within three major components: i) the ability to understand people [1) applying knowledge and 2) building intrapersonal relationships]; ii) the ability to provide people-centered care [3) providing nursing care, 4) practicing ethically, and 5) collaborating with other professionals]; and iii) the ability to improve nursing quality [6) expanding their professional capacity, and 7) ensuring the delivery of high-quality nursing]. Matsutani et al.⁸ presented a diagram showing people-centered, collaborative relationships among the three participants involved in creating healthy living: people who require nursing care, healthcare and welfare professionals, and nurses who play important roles in the fields of healthcare and welfare. This schematization of nursing competency is very useful.

Nakayama et al.⁹ studied and organized processes for developing and evaluating nursing competency by collecting longitudinal and cross-sectional data on nursing competency from university graduate nurses who worked in hospital settings to discern the developmental processes that surrounded their competencies. They examined conceptual definitions and nursing competency frameworks through literature review of domestic and foreign articles and subsequently developed a competency structure with four concepts and 13 competencies. Further, Nakayama et al. created a list of questions for evaluating these competencies and developed a tentative measurement system called the Clinical Nursing Competence Self-Assessment Scale (CNCSS).⁹ The CNCSS measures the following four competency concepts: basic nursing abilities (basic responsibilities, ethical practice and supportive relationships); the ability to provide care that addresses individual needs (clinical judgment, planned nursing implementation, evaluation of care, and health promotion); the ability to modify care environment and collaboration systems [risk management, care coordination and nursing care management (fulfillment of responsibilities)] and the ability to devote time toward professional development in nursing practice (enhancement of professionalism, improvement of nursing quality, and continuous learning). This scale enabled the assessment of university graduate nurses' competencies and was initially used for nurses with 1–5 years of experience. However, the scale was later deemed useful for

accurately measuring nursing competency in nurses with > 5 years of experience.¹⁰

Takase and Teraoka⁶ conducted a concept analysis of nursing competency through a literature review of foreign articles published between 2000 and 2009. They then developed a scale based on the resultant definitions and attributes of nursing competency and presented the components of this scale. The following ten attributes represent the characteristics of nursing competency addressed: personal characteristics; cognitive ability; orientation to ethical/legal practice; engagement in professional development; collaboration with other healthcare professionals; providing teaching or coaching to patients and staff; demonstrating management skills; ensuring quality and safety in care; establishing interpersonal relationships with patients and nursing staff; and managing nursing care. In addition, Takase and Teraoka⁶ developed the Holistic Nursing Competence Scale (HNCS) based on the definitions and attributes of nursing competency that are mentioned above, which consisted of 36 items with a five-factor structure that were retained to form the HNCS. These factors illustrate nurses' general aptitude and their competencies in staff education and management, ethical practice, provision of nursing care and professional development. This scale consists of 36 items and allows for the easy administration of periodic clinical nursing competency evaluations. The attributes of nursing competency identified through concept analysis are reflected onto the scale items without deviation from their original meanings. Therefore, HNCS can be considered as a holistic scale. Since this scale holds high reliability and validity, it is believed to be useful for clinical application.

To train nurses who can function in a wide range of facilities and settings, provide educational support and help maintain stable nursing workforce, the Japanese Nurses Association has been developing a "nursing clinical ladder (Japanese Nurses Association version)" as a nationally standardized index. This index is designed to be used in any nursing practice setting, and thus its use is not limited to the facilities with which individual nurses are affiliated.⁷ The nursing clinical ladder i) develops a standardized nursing competency index, applicable for all nurses regardless of practice setting and background and supports their competency development; ii) assures and secures nursing quality by properly evaluating nursing competencies, and iii) provides safe and trusted nursing care to patients and service users. The clinical ladder is a system that shows nursing competency throughout different phases, displays target abilities for each phase and indicates nurses' abilities according to their achievement levels. It enables nurses to assess their

own competency levels for self-improvement and can also be used for staff development.

A core competency of nursing is "the ability to practice nursing that meets the needs of clients cared for using logical thinking and accurate nursing skills." The nursing competency structure consists of four abilities: the ability to understand needs, the ability to provide care, the ability to collaborate and the ability to support decision-making. These four abilities are closely related and utilized in all types of nursing practice settings.

As shown previously, nursing competency has various definitions, and different components have been indicated. Therefore, future studies are needed to clarify the relationships that exist among the components that support each nursing competency and in what order each element is acquired. Furthermore, it is important to develop nursing competency training methods, evaluate their effectiveness and conduct further research, which contributes to improving nursing quality.

EVALUATION OF NURSING COMPETENCY

To provide seamless training from basic education to post-graduation clinical practice, many studies have focused on evaluating the nursing competency of university graduate nurses with < 5 years of experience.^{11–15}

A study was conducted on the competency characteristics of nurses with 1 year of experience using the CNCSS.¹⁶ The results showed trends that where competency was high in areas of "ethical practice," "risk management," and "basic responsibilities" and low in "care coordination," "professional development," "improvement of nursing quality," and "health promotion." New nurses focus on the duties at hand, which inevitably increase the basic nursing abilities that are associated with ethics and responsibilities. However, it is difficult for them to provide individualized nursing care that supports patients' lifestyles and engage in professional development while providing care.

According to the study conducted on competencies of nurses with < 5 years of clinical experience,¹⁷ nurses had a considerably high competency in direct, everyday care compared with the nurses with only 1 year of experience. They had acquired an ability to provide care that addressed individual health needs, including making appropriate clinical judgments, implementing planned nursing care, and evaluating outcomes. The ability that displayed the most improvement was care coordination, which involves practicing nursing as part of a team. Although improvements were seen in some of the nursing competency attributes during the fifth year of clinical experience, competencies in other areas were still low and required improvement even after the sixth year of

experience.

Tsuji et al. developed a Likert-type nursing competency scale with seven domains and 31 items to evaluate the competencies of mid-level nurses.¹⁸ The results revealed a competency plateau phenomenon among mid-level nurses. In other words, nurses with 5–10 years of clinical experience showed almost no correlation between the years of experience and nursing competency scores. There were considerable differences among competency levels of these mid-level nurses, suggesting that there were nurses who strove for steady improvement of competency and ones who did not.

Many studies use self-administered questionnaires for evaluating nursing competency. However, Kudo et al. evaluated the competencies of average nurses with >10 years of clinical experience using management evaluation.¹⁹ Abilities evaluated highly by management were clinical judgment and planned implementation of nursing care. Abilities reported, but not included in the evaluation scale, involved the ability to respond, adjust, anticipate, and solve problems. That is, management expected these nurses to possess abilities to interpret situations, take action, and produce favorable outcomes.

Many studies on nursing competency evaluation have focused on nurses with 1–5 years of experience, and little is known about competency development in mid-level nurses. On the other hand, the number of studies that focus on components of nursing competency is slowly increasing. Studies involving relationships among nursing competencies include relationships with critical thinking skills,²⁰ sense of coherence and spirituality,²¹ development of social skills,²² and learning behaviors.²² Also, relationships with learning environments,²³ nursing care quality²⁴ and current careers²⁵ have been studied. In all studies, nursing competency is referred to as an ability, which is a complex integration of knowledge including professional judgment, skills, values, and attitudes. These studies also investigated factors related to competency development. Further research should focus on identifying factors that affect nursing competency, which will help achieve insight into methods of training for nursing competency.

TRAINING IN NURSING COMPETENCY

Many studies on nursing competency training methods have focused on basic nursing education,^{26–28} and little has been studied on clinical nurses. For clinical competency training methods for students, scenario simulation, roleplay and objective structured clinical examinations are often used. However, these methods view nursing competency from a behaviorist point of view, and the major focus is on performance in many clinical settings.

Problem-based learning tutorial training is a well-known method where students work in small groups, present a nursing scenario with a problem and situation, create their own learning tasks and engage in active learning. This method involves student-centered learning; instead of active teaching, lessons that encourage active learning are crucial for training thinking skills. Therefore, future studies are needed to identify components of nursing competency and test each training method to verify which method is effective for training each competency.²⁹

Next, we examined clinical nurses' competency training methods. Clinical nursing practice is providing patient-centered care to achieve certain objectives. Nurses provide everyday care in fast-changing clinical settings using abilities acquired through knowledge and skill acquisition processes. An important aspect connecting knowledge and skills is clinical judgment. The clinical judgment process involves reflection, which connects one's own actions and their outcomes. This reflection is a component of clinical judgment.³⁰ Integrating knowledge and skills in clinical settings is a feature of nursing competency and is associated with a core ability to provide care based on the needs of the person who is receiving the care. In other words, effective reflection is closely related to nursing competency improvement. Professional nursing practice includes making judgments, both as a care provider and learner, and reflecting upon one's actions as the care is being delivered, and after the care is completed. Nursing practice, by itself, is crucial for competency improvement.

Needless to say, nursing practice is situation-dependent. To reflect on a particular clinical situation, it is important to understand the background of that situation. Once a nurse determines and shares the direction of the nursing care with the person receiving the care and explains the reasons and anticipated outcomes, reflection becomes a factor for competency improvement. Clinical judgment training through reflection is important for improving nursing competency; however, reflection by itself does not improve all competencies. Nursing competency includes a variety of components, such as knowledge, skills, attitudes, thinking ability and values; therefore, nursing competency training should incorporate various educational programs. To train all areas of nursing competency, it is necessary to understand the attributes and components of these nursing competencies as parts of the clinical ladder and develop training methods that address the order of competency acquisition. Moreover, in addition to evaluating nursing competency, further discussions and research are needed to examine the outcomes of competency improvement.

CONCLUSION

Nursing competency is a core ability that is required for fulfilling nursing responsibilities. Therefore, it is important to clearly define nursing competency in order to establish a foundation for nursing education curriculum. It is also important to identify the developmental process of nursing competency for continuous professional development after obtaining a nursing license. However, while competencies are important in improving the quality of nursing, the concept of nursing competency has not been fully developed. Thus, challenges remain in establishing the definition and structure of nursing competency, competency levels necessary for nursing professionals, training methods and so on. Therefore, further investigation is needed to establish a full concept of nursing competency.

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REFERENCES

- 1 Takase M, Teraoka S, Miyakoshi Y, Kawada A. A concept analysis of nursing competence: a review of international literature. *Nihon Kango Kenkyu Gakkai Zasshi*. 2011;34:103-9. DOI: 10.15065/jjsnr.20110404011. Japanese with English abstract.
- 2 Ministry of Education, Culture, Sports, Science and Technology [Internet]. Tokyo: Ministry of Education, Culture, Sports, Science and Technology; [updated 2004 Mar 26; cited 2017 Oct 16]. Graduation achievement goals toward enhancing nursing competency development (conference report on nursing education model). Available from: http://www.mext.go.jp/b_menu/shingi/chousa/koutou/018-15/toushin/04032601.htm
- 3 Japanese Nursing Association. International competency standards framework for generalist nurses. *Nursing White Paper*. 2005;170-8. Japanese.
- 4 American Nurses Association. Translation Supervisor Kamiizumi K. *Nursing: Scope & Standards of Practice*. International Nursing Review. 2006;29:12-20. Japanese.
- 5 Nakayama Y, Kudo M, Maruyama I, Toda H, Doi Y, Higashi S, et al. [Development of a nursing competency measurement scale (questionnaire) (Version 1): Conceptualization of nursing competency]. *Proceedings of the 28th Japan Academy of Nursing Science Academic Conferences*. 2008;414. Japanese.
- 6 Takase M, Teraoka S. Development of the Holistic Nursing Competence Scale. *Nursing and Health Sciences*. 2011;13:396-403. PMID: 21883769. DOI: 10.1111/j.1442-2018.2011.00631.x.
- 7 Japanese Nursing Association. *Nursing clinical ladder* (Japan Nurses Association version): a guide book for practical use. 2. Introduction/practical use edition [Internet]. Tokyo: Japanese Nursing Association; 2016 [cited 2017 Oct 16]. Available from: http://www.nurse.or.jp/nursing/jissen/guidance/pdf/guidance_int.pdf
- 8 Matsutani M, Miura Y, Hirabayashi Y, Sakyo Y, Unoki T, Osumi K, et al. Nursing competency: concept, structure of dimensions, and assessment. *Seiroka Kango Gakkaishi*. 2010;14:18-28. Japanese with English abstract.
- 9 Maruyama I, Matunari Y, Nakayama Y, Kudoh M, Ishii K, Ishihara M, et al. Goodness of fit Index of clinical nursing competence self-assessment scale. *Fukushima Kenritsu Ika Daigaku Kango Gakubu Kiyo*. 2011;13:11-8. Japanese with English abstract.
- 10 Kudoh M, Nakayama Y, Ishihara M, Higashi S, Nagayama K. A comparison of constructs in two questionnaires for measuring clinical nursing competence. *Fukushima Kenritsu Ika Daigaku Kango Gakubu Kiyo*. 2012;14:13-22. Japanese with English abstract.
- 11 Mihashi M, Komatsu M, Manabe E, Izumi Y, Ookubo Y, Yamagata E, et al. Post graduation evaluation of clinical practice skills in bachelor of nursing course: in the case of the cross-sectional research. *Kyoto Furitsu Ika Daigaku Kango Gakka Kiyo*. 2010;19:43-52. Japanese with English Abstract.
- 12 Komatsu M, Manabe E, Mihashi M, Sasakawa S, Takisita Y, Ookubo Y, et al. Comparison of the achievement of clinical practice skills in bachelor of nursing course graduate time and one year later. *Kyoto Furitsu Ika Daigaku Kango Gakka Kiyo*. 2010;19:35-42. Japanese with English abstract.
- 13 Iwamura R, Ohkawa M, Ozawa K, Tangiku Y, Kuroe Y. Acquisition of competency in nursing practice for graduate nurses during the first to third year after graduation. *Gifu Kenritsu Kango Daigaku Kiyo*. 2016;16:51-61. DOI: 10.24481/00000037. Japanese with English abstract.
- 14 Matsutani M, Sakyo Y, Oku H, Hori N, Takaya T, Miura Y. New baccalaureate nursing graduates' perceptions of required nursing competency: an analysis of interview data from nurses in their first year of work]. *Seiroka Kango Gakkaishi*. 2012;16:9-19. Japanese with English abstract.
- 15 Miura Y, Matsutani M, Takaya T, Nishino R, Sakyo Y, Hirabayashi Y. Baccalaureate nursing graduates' perceptions of required nursing competencies during their first year of employment. -qualitative analysis of reflections-. *Seiroka Kango Gakkaishi*. 2014;17:3-12. Japanese with English abstract.
- 16 Karasuda S, Tsumoto Y, Uchida H. Relationship between clinical competence of new graduate nurses and instructive support of colleagues -from the survey result at the time of one year after graduation-. *Shimane Daigaku Igakubu Kiyo*. 2014;37:27-36. Japanese with English abstract.
- 17 Sasaki S, Fukada M, Okuda R, Hatakeyama K. Self-assessment of clinical nursing competence in the one to five years of clinical experience in the A prefecture. *Yonago Igaku Zasshi*. 2013;64:154-62. Japanese with English abstract.
- 18 Tsuji C, Ogasawara C, Takeda C, Katayama Y, Imura K, Nagayama H. The plateau phenomena and factors related to the development of nurses' practical abilities. *Nihon Kango Kenkyu Kai Zasshi*. 2007;30:31-8. DOI: 10.15065/jjsnr.20070910003. Japanese with English abstract.
- 19 Kudo M, Komatsu M, Omi S, Nakayama Y, Ohira M, Mashita A, et al. [Nursing management's evaluation and expectation of competencies in nurses with long-term clinical practice experiences]. *Proceedings of the 36th Japan Academy of Nursing Science Academic Conferences*. 2016;499. Japanese.
- 20 Hara A, Kawakita T, Matsuo J, Nishizono T, Michishige F. The relationship between critical thinking orientation and clinical nursing competence among nurses. *Osaka Ika Daigaku Kango Kenkyu Zasshi*. 2013;3:58-68. Japanese with English abstract.
- 21 Tanaka I, Higa H, Yamada K. Comparison of clinical nursing

- competence based on attributes of nurses, and relationship between number of working years, sense of coherence, and spirituality. Toyama Daigaku Kango Gakkaishi. 2012;12:81-92. DOI: 10.15099/00002734. Japanese with English abstract.
- 22 Masuhara K, Uchida H, Rarui E, Tsumoto Y, Osada K, Nagasawa Y, et al. Development of nurses with nursing performance and social skills. Shimane Daigaku Igakubu Kiyo. 2007;30:51-7. Japanese with English abstract.
- 23 Kawamoto M, Takase M, Imai T. The relationship between learning activities and nursing competence: a comparison between nurses with different educational backgrounds. Nihon Shokugyo-Saigai Igakukai Kaishi. 2017;1:26-32. Japanese with English Abstract.
- 24 Ogino M, Suuki M, Doi Y, Arai N. Relationship between learning status during university education and the clinical competence of novice nurses. Hyogo Iryo Daigaku Kiyo. 2014;2:47-56. Japanese with English Abstract.
- 25 Nanke K, Usami S, Arimatsu M, Umeki S, Kigo R, Taniguchi M. The relationship between quality of nursing care and clinical competency of nurses. Kumamoto Daigaku Igakubu Hokengakka Kiyo. 2005;1:39-46. Japanese with English Abstract.
- 26 Bessho F, Ago M, Kato M, Sakane K, Hamamura M, Kikkawa Y. The career status and post-graduation self-evaluations of clinical nursing competence of public junior college nurse training course graduates who found employment in A. Prefecture. Nihon Igaku Kangogaku Kyoiku Gakkaishi 2016;25:67-73. Japanese with English abstract.
- 27 Kimura M, Nishikawa M, Akutagawa K, Kataoka M, Hayashi M. Bibliographic consideration of educational methods and evaluation for bibliographic consideration of educational methods and evaluation for the development of nursing competency the development of nursing competency. Hiroshima Kokusai Daigaku Kangogaku Journal. 2012;9:25-34. Japanese with English abstract.
- 28 Ezaki H, Kubota S, Miyauchi H, Aramaki H, Jinno A, Fukushima R, et al. Report on the introduction of the portfolio to cultivate self-education ability in nursing practice: action research from the collaboration between students and faculty. Ehime Kenritsu Iryo Gijutsu Daigaku Kiyo. 2016;13:21-9. Japanese with English Abstract.
- 29 Nakayama Y, Yokota M. The contents of training of clinical nursing competence between basic nursing education and In-service continuing education. Fukushima Kenritsu Ika Daigaku Kango Gakubu Kiyo. 2012;14:1-11. Japanese with English abstract.
- 30 Ogata Y. Examination of performance reflection in nursing practice: a focus on improvement of nursing judgement. Hokkaido Iryo Daigaku Kango Fukushi Gakubu Gakkaishi. 2014;10:43-7. Japanese.